INIST-CNRS in Nancy, France: "a model of efficiency"

Joachim Schöpfel

The author

Joachim Schöpfel is Head of the Library Department of INIST-CNRS and Lecturer at the Nancy University, France.

Keywords

Document supply, France

Abstract

The Institute for Scientific and Technical Information (INIST) is a service unit of the French National Centre for Scientific Research (CNRS). A leading integrated scientific and technical information center, INIST provides the major public research and academic institutions as well as the socio-economic sector with resources and services designed to improve dissemination of and access to international scientific and technical information. Committed to the new information and communication technologies, INIST offers a whole range of access services to scientific and technical information on the Internet. The article highlights the place and the future of document supply in this context.

Electronic access

The Emerald Research Register for this journal is available at
http://www.emeraldinsight.com/researchregister

The current issue and full text archive of this journal is available at
http://www.emeraldinsight.com/0264-1615.htm

Interlending & Document Supply
Volume 31 · Number 2 · 2003 · pp. 94-103
 · ISSN 0264-1615
DOI 10.1108/02641610310477161

Introduction

Created in 1988 by merging the two documentation centres of the National Scientific Research Centre (CNRS) (STM and Social Sciences & Humanities), the Institute of Scientific and Technical Information (INIST) launched in France the concept of the "virtual library": documents are no longer consultable *in situ* but are accessible only via databases and specialized information services on the Internet, which are better adapted to the selective dissemination of information (for a critical history of scientific information in France and CNRS see Astruc *et al.* (1997)).

The "young institution" described by Lupovici (1991) as a "new player in the information world" has grown up. At the age of 15, INIST has confirmed its place in the French and European market of scientific and technology information. With holdings and databases among the most significant in Europe, INIST employs more than 300 information professionals, data processing specialists, technicians and engineers, who manage the daily flow of data, from collection to diffusion of information.

At the heart of this process, the analysis and indexing of publications carried out by specialized teams of "documentation engineers" allow the input of the two databases launched in the middle of the 1970s by CNRS: PASCAL, for science, technologies and medicine (STM), and FRANCIS, for the social sciences, arts and humanities (together 17 million records). Multilingual and multidisciplinary, they constitute an alternative and a complement to other large databases and remain a substantial tool for the validation of French and European research. They are present on the principal international hosts and can be accessed through the CNRS portal, ConnectSciences (http://connectsciences.inist.fr).

Organization and structure of the institute are based on its two principal activities, production and dissemination of information. If the first activity - document management and database production (A&I services) - has not changed significantly since the beginning of INIST; the second activity - dissemination - has undergone profound modifications with the development of the Internet, as have all other players in the sector of document supply.

Finally, one cannot discuss INIST without mentioning its architecture and location. A "*chef d'oeuvre*" of modern architecture, INIST was designed by the famous French architect Jean Nouvel as an "information processing plant, a clean factory of precision, a place where all is under control", based on Schopenhauer's conception of "beauty as an exact representation of efficiency" (Boissière and Fessy, 1992). Located on the scientific and technological campus of Nancy, INIST is part of the Lorraine R&D axis of information technology and language processing, together with other institutions such as ATILF (computer analysis and processing of French language, www.atilf.fr) and Lorraine laboratory for IT research and applications (LORIA, www.loria.fr).

INIST document collections

INIST holdings are unique in France and cover the core international literature in science, technology, medicine, humanities and social sciences (see Figure 1).

These holdings are composed of more than 26,000 serials (8,500 of them currently acquired), more than 60,000 scientific reports, more than 62,000 conference proceedings, 110,000 dissertations and about 10,000 other monographs. Although serials are the most important part of INIST collections, grey literature is not neglected. As the French member of EAGLE, INIST is co-producer of the European database SIGLE and plays a central role in the acquisition and diffusion of French non-commercial scientific literature. In 2003/2004, a retroconversion project will add more than 70,000 bibliographic records of conference proceedings, reports and dissertations to the INIST catalogue.

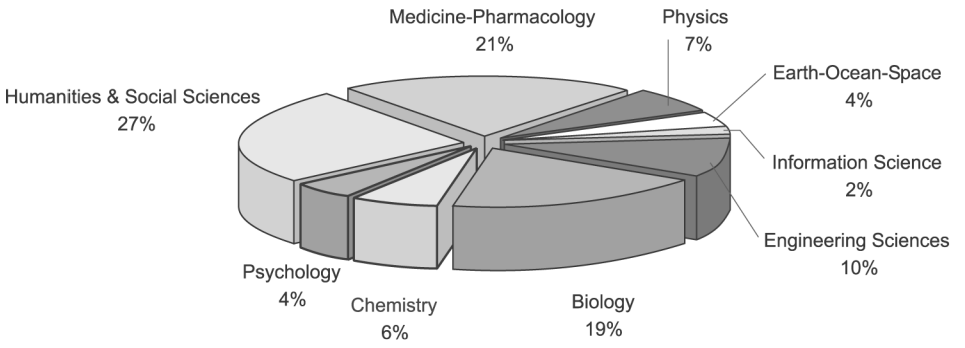
Some 250-300 issues are received and processed each day. This means an annual production of more than 800,000 bibliographic records of articles, communications and monographs and the cover-to-cover digitisation of c. 1,000 serials (17,000 issues and 370,000 articles in 2002). One day after reception, the issues are integrated in the online catalogue; a week later their TOCs are added with header information and abstracts; the capture of keywords for the most significant serials started in 2003. This production of bibliographic information needs a specially designed organisational structure, outsourcing of some activities, and a significant amount of c. e6.5 million was spent in 2002 on acquisition, cataloguing and digitisation.

Documents are stored on some 17 miles of shelves. The serials most often requested are digitised and stored in the INIST digital archiving system, which contains more than 3.5 million articles in image files (TIFF). Digitisation has not only cut down delivery time; it also prevents degradation of paper documents through frequent handling (see Lupovici, 1994).

In 2001 the INIST library replaced its GEAC 9000 system with the new Millennium system (Innovative Interfaces Inc.), whose OPAC will probably be integrated in the INIST portal ConnectSciences in 2003 or 2004. By exporting records, all serial titles are included in the French academic union catalogue SUDOC (see Creff, 2002), providing double access to INIST's holdings.

New subscriptions, subscription renewal and cancellations are reviewed each year by a selection committee, which takes into account suggestions submitted by the scientific departments of CNRS, external experts and a rigorous assessment of scientific interest and

Figure 1 INIST journal collections, by broad subject field



the needs for database production and document delivery.

Representative and important as these holdings are, they are not exhaustive, and they are only one source of INIST services and products. Some of the database input comes from other research units and organizations with which INIST cooperates (French R&D laboratories and other organisations, such as American Institute of Physics, American Geological Institute, Elsevier Engineering Information Inc., etc.). Of course, some of the documents requested by INIST customers have to be located in and ordered from other libraries and document supply centres.

Document delivery at INIST

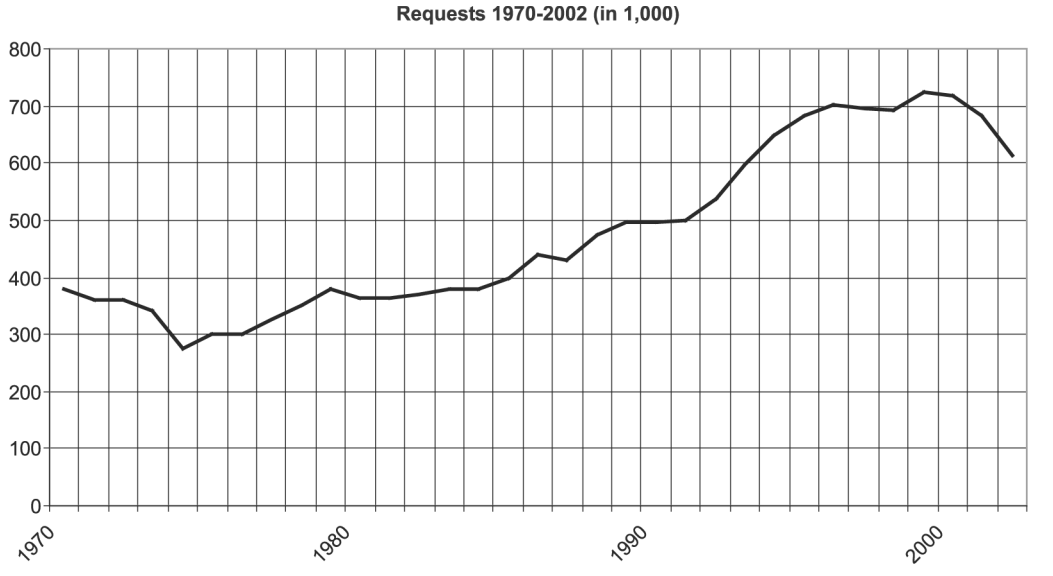
INIST is the leading supplier of copies of scientific and technical documents in France, covering more than 50 percent of the French document supply market (see Creff, 2002). However, document supply from CNRS started long before the creation of INIST. Figure 2 shows the volume of requests data from 1970 to date.

After years of relative stability and slow evolution, request for documents increased rapidly in the early 1990s, growing 40 percent, from 500,000 to more than 700,000 orders. In 2000, the trend went into reverse, with a decline from 2000 to 2002 of about 15 percent. These trends were accompanied by with several factors: automation of the document delivery chain; a rapid increase of electronic ordering from 15 percent in 1987 to more than 80 percent today; optimisation of organisational structures and procedures (see Lupovici, 1993, 1994, 1995); and improvement of service, with 96 percent satisfied requests last year. Nevertheless, the major reasons for this evolution are twofold: the rapid increase of information need by industry, business and public research in the last two decades; and the growing access to electronic resources which started in France three to five years ago.

Another factor observed was a significant change in the sources of requests. In 1987 only 5 percent of requested documents were ordered from outside INIST; today this percentage has grown to 20 percent. To fulfil requests for documents not available in its collections, INIST calls upon a broad international network of some 200 libraries and document centres; the most important of these are the British Library Document Supply Centre, CISTI in Canada, TU Delft, the library of technical information in Hannover (TIB) and the central library of medicine in Cologne (ZBMed). In France, INIST participates in the national academic document supply network and is an associated member of the French National Library (BnF) supply services.

More and more, customers view INIST as a sort of document supply broker - whatever document they want, they send an order to INIST, which will try to get it for them, even (or just) when they do not know where to

Figure 2 Documents supplied by CNRS 1970-2002



Interlending & Document Supply
Volume 31 · Number 2 · 2003 · 94-103

locate it or when their reference is incomplete: INIST will do the job for them.

Today, ordering copies of documents at INIST is quick and easy since the document supply service provides customers with different methods tailored to their needs, for ordering (online catalogues, electronic order form, FTP, etc.), delivery (mail, express, fax, electronic delivery with ARIEL) and payment (customer account, bank card online). Orders are registered and processed as soon as they are received. If the document is held by INIST, it will be copied right away and dispatched in less than 48 hours. If the document is not available at INIST, the order will be referred, without additional charge, to another library of the network; in such cases the mean delivery delay is six to seven days.

Article@INIST, the online catalogue of INIST collections, gives access to three catalogues of documents available at INIST (for articles, journals and monographs) and contains more than 7 million items dating back to 1990. The new ArticlesSciences and MonoSciences services are search tools for ordering copies of articles and monographs, coupled with a secured online payment system and an interface in four languages (French, English, Spanish and Italian). Customers can use the electronic order form, Form@INIST, to enter bibliographic references of requested documents. They can follow up their accounts, check their balances and review the detailed invoices of orders with the complementary online service Compte@INIST.

What kinds of documents are ordered? Most are articles from serials (96 percent of all orders); the rest are conference proceedings, reports or dissertations and theses. Requests are tracked and analyzed, so that INIST has at every moment an exact picture of who wants what, a *sine qua non* for keeping in touch with rapidly changing needs and for adapting the acquisition and dissemination policy.

Last but not least, the price of one copy (up to 50 pages) is e10.50. INIST applies a discount of up to 40 percent to public research and higher education organizations and users. To this basic price are added VAT (19.6 percent) and copyright fees (see below). For detailed information on this topic cf. http://services.inist.fr

INIST's customers and turnover

Who are the customers of INIST document supply services? What does document supply contribute to the total turnover of INIST's commercial activity?

In the past, CNRS's documentation centres delivered copies mainly to the scientists and engineers of the French National Research Centre and other related public research organisations. Today, this is no longer the case. Only 40 percent of all of more than 6,000 customers belong to the French public research or higher education sector. In 2002, 63 percent of the document supply turnover was accounted for by the commercial sector (industry and business), against 18 percent by research organisations and 11 percent by the HE sector. This distinguishes INIST from other important public suppliers, such as the British Library (where 31 percent of documents are requested by industry and business, accounting for 36 percent of revenue) or the German Subito "easy-to-use" cooperative delivery service (25 percent of whose copies are for commercial users). INIST's customers are mainly French (who account for 82 percent of sales); the rest of the sales are in European (5 percent) and other countries (13 percent).

In 2002, document supply represented c. 81 percent of all INIST's commercial turnover. Compared with 56 percent in 1988, the relative financial weight of document supply has grown steadily and is quite high. At first sight, this may seem paradoxical since document supply is decreasing. The reasons are multiple: INIST's traditional commercial products of dissemination have disappeared (paper A&I products, translation service) or are declining (databases on CD-ROM), while new services are freely available (Internet services), very specific and personalized (scientific watch) or emerging (training, e-learning). Does this trend of decline give reason to panic? No; like any other public organisation, INIST receives public funding to maintain and pursue its missions; turnover and sales are but one source of revenue, and document supply is only one way of disseminating scientific information (see below).

Copyright issues

A copyright fee is charged for each document, at a flat rate of e1.30 (+ VAT)

Interlending & Document Supply
Volume 31 · Number 2 · 2003 · 94-103

per document copied. All copyright fees are paid back in full to the French Copyright Agency CFC (Centre Français d'exploitation du droit de Copie, cf. www.cfcopies.com). Copyright fees apply only to copies made from serials and books; they do not apply to copies of dissertations, reports and conference proceedings (grey literature) and other documents not covered by copyright.

INIST is subject to French law, which is different from common law conceptions on copyright and equitable remuneration (see Goutal, 2001). Approved by the Minister of Culture by decree, the CFC is, since 1996, the exclusive French agency for managing copyright for paper copies. The CFC represents automatically the rights of all authors and publishers of books and only it can give authorization for document supply by paper copies. The CFC fixes the rate, collects and receives the copyright fees from document suppliers (documentation centres, academic libraries, universities, high schools, business, copy shops, etc.) and transfers them to the right-holders, namely the publishers and authors. In 2001, the CFC received nearly e20 million and transferred e15.8 million (nearly 80 percent) to authors and publishers (in 2002).

In accordance with French law, INIST has concluded a contract with the CFC which fixes the flat rate, applies it to all paper copies and includes electronic delivery via ARIEL. Each year, INIST transfers to the CFC a file with the precise and detailed information on copies supplied per publisher.

Three issues may be highlighted. First, as indicated, the contract applies only to paper copies. In fact, the CFC has no competency to manage copyright for e-documents. Accordingly, document supply from publisher files has to be negotiated directly with the right-holders. Perhaps this will change in due course; last year the CFC concluded a first contract with some French publishers and press associations (*Le Monde*, *Libération*, *Les Echos* and others) for electronic press reviews on the intranet (see Libmann, 2002). Nevertheless, if today INIST wanted to develop document delivery from electronic archives direct to end users, it would need to engage in negotiations with the publishers, as the British Library did some months ago. In this case INIST has to deal with two different processes of copyright management, one with the CFC, another directly with publishers. In this context, the result of the conflict between Subito, the German CLA (VG Wort) and some major publishers (Elsevier, Wiley Harcourt and AIP) concerning electronic document delivery will be of great interest to INIST.

Second, the French government has to implement the European Directive of 2001 on the Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society into French national law (see Depringre (2001)). Even if the Directive allows a certain degree of freedom for the Member States, "there is no guarantee that the Directive of 22 May 2001 will not have a destabilising effect on the level of protection afforded to creators in the Member States of the Community . . ." (Desurmont, 2001). The French government's intentions (or rather what is known about) to adopt only two exceptions and limitations from the Directive have led the major professional library associations (ADBS, ABF, ADBU, ADBDP) in January 2003 to make strong protests. Without more detailed information, it is too early to anticipate the consequences for INIST's document supply. Probably, the contract with the CFC and the relationship with the publishers will have to be reconsidered in the light of the future legal context, even if the principle of collective copyright management for paper copies by the CFC has to be compatible with the 2001 directive. Nevertheless, INIST may have to modify its existing pricing model (see Hardy *et al.*, 2001) and abandon the simple flat rate, which would result in an increase in and differentiation of the relevant copyright fee; however, the net price of a copy should not necessarily be directly affected.

Finally, ordering documents from libraries in the UK, Germany, The Netherlands or other countries creates a situation where in some cases copyright fees are paid twice - the first time to the supplying library which applies German, Dutch or UK national law, and a second time to the CFC, in accordance with its contract with INIST. This is not satisfactory for either INIST or the end user. In the future, this issue will be re-examined according to the application of the European Directive in the different Member States.

Interlending & Document Supply
Volume 31 · Number 2 · 2003 · 94-103

Document supply and access to e-documents

The impact of access to digital information on traditional ILL and document supply is widely discussed and documented (for the French higher education sector, see Boukacem (2003)). In the last two years, INIST has had the opportunity to measure the immediate impact of access to e-serials on document supply. In 2000, it negotiated a licence for 149 Elsevier titles for the CNRS chemistry laboratories. The result was a decrease in document supply of 10 percent in the first year. There was a direct and high correlation between this decline and the usage statistics: a major decrease of supply requests for the ten most wanted titles, a smaller decrease, or none at all, for the other e-serials. In comparison, no such decline could be observed for the other Elsevier titles nor for other serials and/or customers.

In 2002, access to the OVID Science Collections for all CNRS laboratories (about 1,200 research units) resulted in an overall decline of supply requests by CNRS for these titles of nearly 30 percent. Paradoxically, this time the most requested titles - *Nature and Nucleic Acid Research* - were less affected than the other titles, with a decrease rate below 10 percent.

These were merely two small-scale experiences. But the results were roughly the same as is observed in other contexts and on a larger scale: decline of document supply, yes; agony or death, no. In fact, INIST is preparing for access to all Elsevier and IOP titles on the ScienceDirect platform on site, for the French research community and in due course for the higher education sector. Other serial collections will probably be loaded on this platform later.

The impact on document supply will be felt, even if INIST is less affected than other document suppliers which receive a greater proportion of requests from public research and HE sectors, e.g. the French academic ILL network (see above). The rate of decrease and the level at which it settles depend on the scale of the e-service, ease of access to the serials, access to the archives, the needs and behaviour of specific scientific communities, the macroeconomic situation and the development of TIC in the business sector. For INIST, it is too early to make realistic guesses as to conclusions. Will the decrease of 15 percent we have observed for two years accelerate? Will the document supply stabilize at 80 percent, 50 percent or 30 percent of the actual level? When? Will there be a stabilised level at all? This will need to be looked at again in 2004 or 2005.

Developments and projects 2002-2003

Technology, production and needs are changing, and so are the missions and goals of INIST as a public institution (see Guichard, 1999). A short overview of the current projects and emerging services may illustrate this topic and provide an *aperçu* of the environment in which document supply is evolving.

A gateway to scientific and technical information

As a gateway to information, INIST plays two complementary roles. First, it provides free access for scientific communities throughout the world, through its "traditional" Internet services (Services@INIST), including the above-mentioned online catalogue, through the new multilingual search engine ArticleSciences and, since 2001, through the new CNRS portal for scientific and technical information ConnectSciences, which offers a full range of search tools and services (databases, article catalogues, search and navigation tools, current awareness tools, URL databases, etc.).

Second, INIST has developed dedicated online services for the scientific and academic community in France. These include BiblioSciences (access to Current Contents, INSPEC, Medline, INIS, SIGLE, PASCAL and FRANCIS databases); OVID Science Collections (including Nature and Science); EvalSciences (a platform for the CNRS headquarters and National Committee section heads, providing access to a range of tools to assist research evaluation, including the Web of Science, ISI Essential Science Indicators, ISI Journal Citation Reports and ISI HighlyCited.com); and TITANE, a chemistry server for the French scientific community providing access to MDL/ Beilstein databases and the Cambridge Structural Database. This service is constantly evolving; the most recent example is the creation of BiblioInserm, a portal for the INSERM departments (public medical

research) with access to EMBASE, Medline, PASCAL and FRANCIS.

A platform for archiving, publishing and accessing digital documents

In fact, this platform contains four elements:

(1) digital archiving system already mentioned;
(2) electronic document transmission system ARIEL;
(3) BiomedCentral open access archives and full-text searches of nearly 60 titles in biology and medicine; and
(4) Elsevier ScienceDirect Onsite online host platform for the most important scientific publishers.

Other "bricks" are under test, such as tools for the management of electronic publishing of serials in social sciences and humanities, for digitisation and "XMLisation" of existing paper or electronic publications and for access to open archives of grey literature. In due course, INIST should be able to offer a fully integrated chain of e-publishing, adapted to the needs of the French scientific community.

Customized services to the scientific community

INIST is providing three types of customized services. It offers a range of scientific document current awareness services drawing on new technologies for information analysis and processing, including scientometrics; it has designed training modules (e.g. seminars for CNRS documentation specialists and librarians), and has started to develop a dedicated platform for online training activities (e-learning); and it publishes two multimedia newsletters dealing with NTIC and electronic documentation. In partnership with the publisher FTPress, INIST offers kiosk and multimedia magazine design services to complement or replace traditional print newsletters.

A research partner in the NTIC community

INIST has invested substantially in the development of information processing tools and methods and is committed to several projects of European scope. The creation of a research hub with ATILF and LORIA on language processing in the Lorraine region has already been mentioned. Two recent projects in which INIST is involved are FIGARO (e-publishing tools for the academic sector) and E-Biosci (access to STI resources in the life sciences).

The future of document supply at INIST

What will be, or might be, the future of document delivery in this context? There are two answers. The first is that nobody really seems to know; the second, that the future has already begun (see Line *et al.*, 2002). Boukacem (2003) describes the decline of document supply in the French academic sector, which is related to the creation of regional and national consortia and a rapid increase of access to electronic resources. But does this means the agony and near death of traditional ILL and document supply? It is too soon to give a definite answer, but there is some reason to doubt. For the French higher education sector, Boukacem predicts a complementary system, based on an unequal distribution and access to electronic resources, which leads to a hybridisation of collections and a reorganisation of information and document flows.

The latest evolution of document supply by the British Library and the German Subito service seems to confirm that the e-document does not signify the end but rather a change of traditional document supply. After a period of decline, the British Library seems to have stabilized its supply activity in 2002 at a relatively high level, and this year announced, after years of different projects and developments (see Burden *et al.*, 2001) a new service of e-document delivery through its document supply system based on negotiations with three publishers (Elsevier, Kluwer, Karger). Since its creation in 1997, the Subito network has recorded significant increases in document supply, nearly 50 percent in 2001 and about 40 percent in 2002, reaching 1 million requests at the end of last year. Subito's concept and reason of success are quite simple: online research in a major database of serials and books, electronic ordering, direct delivery to the user's workplace, and penetration of national and international markets (German-speaking countries, Scandinavia).

In this context of rapid change and evolution, INIST has begun to redefine the service of document supply as one way of disseminating scientific information. To

Interlending & Document Supply
Volume 31 · Number 2 · 2003 · 94-103

conclude this overview, four challenges for the (immediate) future are discussed:

(1) *Organisation of document supply.* Total automation could cut delivery costs and delays. At Nancy, the change from a traditional to a fully integrated electronic document supply chain started some years ago, with the creation of online catalogues where copies can be directly ordered online. Today, more than 75 percent of requests are received electronically, more than 35 percent of copies are supplied from the digital archives, and documents are scanned on demand for electronic delivery through ARIEL. Of the documents in the backup libraries, 90 percent are ordered electronically and, since 2002, more than 65 percent are received through the Internet.

Two steps remain to be taken: diversification of format and electronic delivery, and supply direct from publishers' files. For INIST, these do not constitute technical problems - their realisation depends "only" on copyright negotiations with the French CFC and publishers. The survival in a hybrid environment of electronic access and delivery from paper holdings relies also on improvement of process organisation and rationalisation (see Dekker and Waaijers, 2001). This means that organisation, rationalisation and negotiation must fit together: a challenge, but not "mission: impossible".

A UK experience of interest is the integration of academic document supply and pay-per-view access to e-serials. Up to now, in France there is no important project that could be compared to the EASY project run by Ingenta and Lancaster University (Morrow, 2002). Is this a role that INIST could adopt? Another interesting service is the new PDF delivery of publishers' files by the British Library, mentioned above. Could this be a model for INIST? Or an opportunity for a new partnership?

(2) *Content of supply.* Scientific articles are not the only carrier of information. The content of document delivery is broadening and will include other issues. For example, INIST has taken over the dissemination of scientific documentaries (films) produced by the CNRS research laboratories. In the future, this may turn into an integrated service of bibliographic records, full text and multimedia (VHS, photographs . . .), a service INIST and LORIA tested at a local level in 1999 for the centenary of the art nouveau École de Nancy.

(3) *Quality of service.* "Document delivery is about quality of service, not about systems" (Dekker and Waaijers, 2001); so how can the quality of service be improved and enhanced? The growing expectation of customers to obtain all documents through INIST, rapidly and at a low price, is a third challenge. INIST will have to close the "5 percent gap" - which means optimization of identification and location of the requested issues and development and diversification of contracts with other supply institutions. If INIST can already satisfy more than 95 percent of the requests, why not 98 percent or 99 percent tomorrow?

Today, INIST supply services are using an internal "meta-catalogue" which contains more than one million bibliographic records of the most important backup libraries and whose research algorithm includes multiple criteria such as quality of service, delay of supply or price structure. Tomorrow, the same work may be facilitated by access to other catalogues via Z39.50, metadata harvesting in local databases (cf. the prototype of the MAGiC project of Cranfield University and the British Library) Needham (2002) or other tools and methods.

Nevertheless, improved tools and methods are not the only, and perhaps even not the most important, answer to growing demands for quality - what would be the use of sophisticated tools without a well-trained, motivated, informed and "knowledgeable staff . . . who know their way around the publishing and library system, are able to use the technology with confidence, and can guide users in their search for information" (Line *et al.*, 2002)? The size of INIST - more than 300 professionals working on the same site - and its structure facilitate investment in training and education, career planning (turnover between different teams and

departments) and recruitment. But human resources management in this moving landscape will always be a challenge.

(4) *Alternatives to commercial dissemination.* What about alternatives to traditional supply? In January 2003, INIST, together with INSERM and ICSTI, organised the first European conference on open archives and free access to information in Paris and is exploring new ways of producing and disseminating scientific information. In a sense, INIST is trying to close the gap between a business-oriented approach and a non-profit-seeking role (see Wang, 2001), as between producers and users of information. The recent partnership with BiomedCentral was mentioned above. PubmedCentral has already shown interest in cooperating with INIST. Another "mission: impossible", doing the splits, or simply the only way to fulfil its public function?

To conclude

Surely, this evolution together with the development of new services by INIST will have a profound impact on the acquisition policy, collection management and organisational structure of the institute. Maybe this leads in the end to the development of a specific approach for each scientific domain, maybe document delivery in physics will take another direction, and prove to need other tools and services than those in chemistry or life sciences (see the analyses of usage reports by Row *et al.* (2001) and of ILL evolution by Boukacem (2003)).

This needs increased cooperation with other national and international organisations and actors. The discussion between the British Library, CISTI and INIST within the International Council for Scientific and Technical Information (ICSTI) on document delivery in the age of e-document and European copyright may foster international cooperation.

So will INIST stay in the race, will it be prepared to afford an open future, showing proof of "knowledge, foresight, alertness and flexibility" (Line *et al.*, 2002)? In the light of the short but rich history of INIST, it seems reasonable to suppose that document supply will take its place amidst emerging needs and services, and that INIST, as in the past, will be able to adapt rapidly to the future of information production and supply, in order to reach the changing needs of its traditional and future customers.

References

Astruc, J., Le Maguer, J. and Picard, J.F. (1997), "Le CNRS et l'information scientifique et technique en France", *Solaris*, No. 4, December, www.info.unicaen.fr/bnum/jelec/Solaris/d04/4lemaguer.html

Bossière, O. and Fessy, G. (1992), *L'INIST dans l'uvre de Jean Nouvel*, Les Editions du Demi-Cercle, Paris.

Boukacem, C. (2003), "Inter-library loan services and the access to electronic resources in French university libraries: a marriage of reason", *Interlending & Document Supply*, Vol. 31 No. 3 (in press).

Burden, C., Reid, A., Sweeney, J., Bennett, R., Braid, A. and Vickery, J. (2001), "E-journal at the British Library: from selection to access", *Information Services & Use*, Vol. 21 No. 2, pp. 117-21.

Creff, C. (2002), "Opening interlending services to end users: the Catalogue Collectif de France", *Interlending & Document Supply*, Vol. 30 No. 3, pp. 126-9.

Dekker, R. and Waaijers, L. (2001), "Beyond the photocopy machine: document delivery in a hybrid environment'', *Interlending & Document Supply*, Vol. 29 No. 2, pp. 62-8.

Despringre, C. (2001), "Directive européenne sur le droit d'auteur du 14 février 2001: les limites d'une vaste ambition", *Expertises des Systèmes d'Information*, No. 247, April, pp. 139-42.

Desurmont, T. (2001), "The European Community, authors' rights and the information society", *Revue Internationale du Droit d'Auteur*, No. 190, October, pp. 2-69.

Goutal, J.L. (2001), "The WIPO Treaty of 20 December 1996 and the French conception of authors' rights", *Revue Internationale du Droit d'Auteur*, No. 187, January, pp. 66-109.

Guichard, M. (1999), "L'INIST-CNRS: des services d'information payants et gratuits dans un cadre de service public", *Bulletin d'Informations ABF*, No. 184-5, pp. 100-2.

Hardy, R.L., Oppenheim, C. and Rubbert, I. (2001), "PELICAN: one step closer to the solution of the pricing problem'', *Information Services & Use*, Vol. 21 No. 2, pp. 157-64.

Libman, F. (2002), "Premiers pas du CFC dans la gestion des droits numériques'', *Bases*, No. 187, October, pp. 1-4.

Line, M.B., Guerrero, E.-M., Jackson, M.E., Mark, N., Sène, H. and Waaijers, L. (2002), "The future of interlibrary loan and document supply: views and comments", *Interlending & Document Supply*, Vol. 30 No. 2, pp. 60-5.

Lupovici, C. (1991), "INIST: document supply from Nancy", in Gallico, A. (Ed.), *Interlending and Document Supply: Proceedings from the Second International*

Conference, held in London, November 1990, IFLA Office for International Lending, pp. 68-70.

Lupovici, C. (1993), "The use of new information technologies at INIST-CNRS", *INSPEL*, Vol. 27 No. 1, pp. 55-60.

Lupovici, C. (1994), "The use of electronic delivery at INIST: inter-library lending and document delivery", *VINE*, Very informal newsletter on library automation, No. 95, pp. 25-8.

Lupovici, C. (1995), "Towards a full electronic information system at INIST", *Information Services & Use*, Vol. 15 No. 3, pp. 229-36.

Morrow, T. (2002), "Electronic article supply – making life EASY-er for all", *Interlending & Document Supply*, Vol. 30 No. 3, pp. 112-19.

Needham, P. (2002), "MAGiC: shining a new light on a grey area", *Serials*, Vol. 15 No. 3, pp. 201-6.

Row, J., Shrode, F. and Smith, R. (2001), "Across the disciplines: does subsidized document delivery meet the challenge?", *Collection Management*, Vol. 26 No. 2, pp. 13-29.

Wang, M.-Y. (2001), "The document supply industry: supply and demand", *Library Review*, Vol. 50 No. 30, pp. 128-31.